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COMMONWEALTH OF PENNSYLVANIA.

State Board of Health.



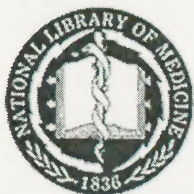
ON THE

PREVENTION OF BLINDNESS,

INCLUDING THE ACT OF ASSEMBLY.

Addressed to Physicians, Nurses
and Midwives.

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THE PREVENTION OF BLINDNESS.

The preparation of this circular is the result of representations made to the State Board of Health by two prominent medical societies of the city of Philadelphia at different times, and each without the knowledge of the action of the other. The belief upon which it is based may therefore be said to represent the deliberate opinion and judgment of the Medical Profession at the present day. The facts presented are drawn from the communications above referred to, but they may be found abundantly in the current medical literature of the past ten years. It is not necessary to enter into an argument to show that every case of blindness is a money-loss to the State, or that, consequently, every case of blindness prevented will be a money-gain to the State. The following facts therefore have a significance to the political economist quite apart from their bearing upon a most important factor in the world's total of suffering and privation.

1st. There is in the State of Pennsylvania, as in the United States, an apparently rapid increase in the number of the blind.

2d. A large percentage of the blindness is due to the disease known as purulent ophthalmia of the new born.

3d. By the use of known methods this could be very materially lessened.

RAPID INCREASE OF BLINDNESS IN PENNSYLVANIA.

When we compare the report of the United States census of 1870 with that of 1880 we find that the increase of population for

Pennsylvania for that period was 21.6 per cent., while the apparent increase in blindness for the same period was 119.8 per cent., showing that blindness increased over five times more rapidly than the population. In New York the figures are even more startling.

A SINGLE DISEASE, OPHTHALMIA OF NEW BORN INFANTS, THE MOST PRODUCTIVE CAUSE OF BLINDNESS.

In the second place, the most important factor in the production of blindness is the purulent ophthalmia of infants, or ophthalmia neonatorum. Fuchs found that among 3,204 cases of blindness collected from asylums in different parts of Europe 23.5 per cent. were due to ophthalmia neonatorum. In the new York Institution for the Blind, at Batavia, 23.4 per cent. of the inmates are there as the result of the same disease.

Horner has shown that among 100 blind asylums in different countries the variation was from 20 to 79 per cent.—average 33 per cent.

Haussmann gives the number in the asylum in Copenhagen made blind by this disease as 8 per cent., in Berlin 20 per cent., in Vienna 30 per cent., in Paris 45 per cent.

According to the report of the Royal Commission on the Blind, of the English Government, published in 1889, 30 per cent. of the inmates of the institutions and 7,000 persons in the United Kingdom have lost their sight from this cause. Professor Magnus, of Breslau, finds that no less than 72 per cent. of all who become blind during the first year of life are rendered so by purulent ophthalmia; and even of those who become blind before the twentieth year of life, it constitutes as much as 23.50 per cent. Looking at the subject in another way he shows that of 10,000 children under five years of age, 4.28 are blinded by purulent ophthalmia. In the blind asylums of Switzerland the

proportion who have lost their sight from this disease is 26 per cent.; in the asylum of Austria, Hungary and Italy about 20 per cent.; while in Spain and Belgium it falls to about 11 or 12 per cent. An investigation into the causes of the blindness of 167 inmates of the Pennsylvania Institution for the Blind, made by Dr. George C. Harlan, of Philadelphia, developed the fact that 55 owed their affliction to purulent ophthalmia, and that more than half of these cases occurred in infancy.

OPHTHALMIA OF THE NEW BORN IS AN INFECTIOUS, AND THEREFORE A PREVENTABLE, DISEASE.

Whenever the fact is demonstrated that a disease is infectious, contagious, communicable from person to person, either by direct contact or through the medium of infected articles it becomes the duty of the physician and the sanitarian to discover, if possible the source and character of this infectious matter, and to devise means for preventing its transmission.

Ophthalmia of the new born in an infectious disease, and can only occur after the infectious matter has come into actual and somewhat prolonged contact with the conjunctiva. The noxious matter is in every instance derived from an inflamed vagina (or urethra), or from another eye. In the great majority of cases infection takes place from the vagina, and it is to be remembered that the disease is not caused by the secretion of a specific (gonorrhœal) catarrh only, but that it may be produced by the secretion of a simple leucorrhœa, or at least by what is recognized as such clinically.

As regards the period when infection occurs, this may take place either during or immediately after birth, or at some subsequent moment. If the former, the disease manifests itself by redness and puffiness of the lids at from the second to the fifth day; if it does not appear until later, infection has taken place subsequent to birth. This may happen by the transference of

secretion to the child's eyes in various ways, as by the hands of the attendant, by soiled linen or sponges, etc.; but the lochial discharge, as such, has been found to be incapable of causing the affection, if the woman be free from inflammatory disease.

The discovery of the gonococcus has led investigators to examine the secretion of purulent ophthalmia for the same organism—and in the vast majority of cases examined it has been found to be present therein also; still, different observers appear to have reached results not entirely in accordance as to the relative frequency with which this organism is present. Cases do occur in which it cannot be found. Hence the attempt has been made from a bacteriological point of view to recognize different forms of the disease—a specific form and simple inflammatory forms. As stated above, the *secretion of simple vaginal catarrhs* is capable of causing purulent ophthalmia.

Formerly this disease was attributed to a variety of causes, such as injuries received by the eyes during birth, icterus, chilling of the body, or intense light, but these views are, of course, no longer entertained.

It is hardly too much to say that *no one should become blind from this disease*; not only because it is quite amenable to treatment, if this be instituted from the beginning, but because the disease itself cannot be prevented in most instance if those who have the care of mother and child understand the nature of the affection.

From the facts and figures above given it will be seen that this is simply another way of saying that *one-third of those who are now blind might have been saved from this calamity*.

THE PRECAUTIONS NECESSARY TO PREVENT OPHTHALMIA OF THE NEWBORN AND THE RESULTANT BLINDNESS.

It will at once occur to the physician that if unhealthy discharges from the vagina of the mother are the cause, and the sole cause of this affection, it is his duty to cure all conditions pro-

ducing such discharges during pregnancy. If he does not succeed in this he can at least render them harmless by washing out the vagina with a disinfectant solution during labor. The physician, however, will usually be sufficiently alive to the importance of this subject, and will also be competent to recognize and to treat cases of the disease when it has become fully developed, and thus prevent its termination in blindness. Dr. Schneidman in a recent paper before the Philadelphia County Medical Society, says that "perfect recovery without damage to the cornea" is always attainable by prompt, vigorous treatment and assiduous attention. Preventive and not remedial measures are, however, the subject of this circular.

The plan now adopted by scientific physicians is that known as "the *Credé* method," from the name of the physician who introduced it. It consists in first carefully washing out the eyes of the child with pure warm water, and then dropping into them one or two drops of a two per cent. solution of nitrate of silver. If all the environments of the child are hygienic and the physician is sure of the healthy condition of the vaginal mucous membrane, the first measure will be all that is necessary; but, under all other circumstances, the second should never be neglected. The proof of the good results of this simple precaution is overwhelming.

Dr. Lucian Howe, of Buffalo, has collected two lists of cases, the first showing the result obtained and published by different obstetricians who used no treatment for the eyes of 8,798 children born under their care. Among these 8.66 per cent. had ophthalmia in a greater or less degree.

The second list of 8,574 shows the result of the *Credé* treatment. In these cases there were only 0.65 per cent. In the lying-in hospital of Leipsic, where *Credé* instituted his own method, the percentage fell from 7.5 to 0.5 per cent. The advantages of *Credé's* method have been recognized by its official recommendation in Austria, Germany, Switzerland, France and in this country.

NECESSITY FOR SPECIAL INSTRUCTION OF NURSES AND MIDWIVES.

In view of these incontrovertible facts it becomes the duty of all physicians who are engaged in the instruction of nurses and midwives, under whose care rather than that of the thoroughly qualified physician these cases are apt to occur, to impress upon them the terrible risks incurred by neglect of cleanliness in this particular, and to require of them an intelligent appreciation of the importance of the subject and an acquaintance with the signs of commencing inflammation of the eyes and of the methods above detailed.

This class of attendants on lying-in women should not, however, attempt to conduct the prolonged treatment of a case of inflamed eyes of the new-born infant by themselves, but should place the case under the charge of a physician at the earliest possible moment. In many European countries this is made obligatory. The State of New York has had a law in operation for several years, requiring midwives and nurses to report every case of inflamed or reddened eyes occurring within two weeks after birth, to some legally qualified practitioner within six hours after discovery, under penalty of a fine or imprisonment or both.

Deeply impressed with the importance of this subject and feeling the responsibility which rested upon it to use its authority for the diminution of this serious disability, the State Board of Health of Pennsylvania in the year 1892 adopted the following regulation:

REGULATION VII.

FOR THE PREVENTION OF BLINDNESS.

Whenever, in any city, borough, village or place in this State having no health authority of its own, any nurse, midwife or other person, not a legally qualified practitioner of medicine, shall notice inflammation of the eyes or redness of the lids in a new-born child under his or her care, it shall be the duty of such per-

son to report the same to some legally qualified practitioner of medicine, within twelve hours of the time the disease is first noticed.

The above regulation has now been superseded by the Act of June 26th, A. D. 1895, which is hereby adopted as a Regulation of the State Board of Health and which reads as follows :

AN ACT

For the prevention of blindness, imposing a duty upon all midwives, nurses or other persons having the care of infants, and also upon the health officer, and fixing a penalty for neglect thereof.

Whereas, Statistics compiled in this country and Europe demonstrate that fully twenty-five per centum of the blind owe their affliction to an inflammation of the conjunctiva appearing a few days after birth ;

Preamble.

And whereas, Experience has proved that the inflammation can be cured and the eyesight saved in the majority of cases if treatment be instituted at an early stage of the disease ;

Preamble No. 2.

And, whereas, Destruction of the eyes and blindness are usually the result of delay of treatment ;

Preamble No. 3.

Section 1. BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE COMMONWEALTH OF PENNSYLVANIA IN GENERAL ASSEMBLY MET, AND IT IS HEREBY SO ENACTED, That should one or both eyes of a infant become inflamed or swollen or reddened at any time within two weeks after birth, it shall be the duty of the midwife or nurse, or other person having the care of such infant, to report in writing, within six hours after the discovery thereof, to the health officer or a legally qualified practitioner of the city, town or district in which the mother of the child resides, the fact that such inflammation or swelling or redness exists.

Duties of midwives and nurses.

Shall report to health officer.

Section 2. That it shall be the duty of said health officer, immediately upon receipt of said written report, to notify the parents or the person having charge of said infant of the danger to the eye or eyes of said infants by reason of said condition from neglect of proper treatment of the same, and he shall also enclose to them directions for the proper treatment thereof.

Duty of health officer.

Section 3. Every health officer shall furnish a copy of this act to each person who is known to him to act as midwife or nurse in the city or town for which such health officer is appointed, and the Secretary of State shall cause a sufficient number of copies of this act to be printed and supply the same to such health officers on application.

Copy of act to be
furnished mid-
wives, etc.

Section 4. Any failure to comply with the provisions of this act shall be punishable by fine not to exceed two hundred dollars, or imprisonment not to exceed thirty days, or both.

Penalty.

Approved—The 26th day of June, A. D. 1895.

DANIEL H. HASTINGS.

In pursuance of the purposes of the above cited Act and Regulation the State Board of Health issues the following form as a guide to health officers in the discharge of the duty assigned to them in Section 2.

HEALTH OFFICER'S NOTIFICATION.

OFFICE OF THE BOARD OF HEALTH.

To.....

No.

Street.....

189.....

In accordance with Section 2 of the Act of June 26th, 1895, for the "Prevention of Blindness" it is my duty to notify you that the infant reported as having swollen or reddened eyes at your residence or under your care, is in great danger of losing its sight unless the following directions are carefully and fully complied with:

DIRECTIONS TO THE MIDWIFE OR NURSE.

1. Gently open the lids and wash out the eyes with pure luke-warm water which has been boiled, using a clean, soft piece of old linen or muslin or a pledget of absorbent cotton, *not* a sponge.
2. Then immediately drop into each eye one or two drops of a two per cent. solution of Nitrate of Silver. The appended prescription for this solution may be cut off and sent to the apothecary.

3. Half an hour later wash out the eyes with warm salt and water, (a teaspoonful of table salt to a pint of boiled water) or with a solution of Boric acid (ten grains to two tablespoonfuls of boiled water) and continue this last application every hour or two until the eyes are well, gradually lengthening the time.

This disease is very catching and very dangerous even to grown up persons. Therefore boil or burn all cloths that have touched the eyes, avoid kissing the child, wash your hands after bathing the eyes, and allow no one else to use the same basin.

OFFICIAL PRESCRIPTION AUTHORIZED BY THE STATE BOARD OF HEALTH.

R

Argent. nitrat. cryst. gr. i.
Aq. destillat. ℥ i.

Ft. solutio.

Sig. Drop one or two drops into each eye, *once only*.

For external use only.

..... Health Officer.

**PRECAUTIONARY AND HYGIENIC CIRCULARS ISSUED BY THE STATE
BOARD OF HEALTH OF PENNSYLVANIA.**

No. 7. Precautions against Cholera, Cholera Infantum, Cholera Morbus, Summer Diarrhoea and Dysentery.

No. 7. Precautions against Cholera, etc. (German.)

No. 7. Precautions against Cholera, etc. (Slovak.)

No. 8. Precautions against Small Pox.

No. 18. Precautions against Typhoid Fever.

No. 19. Precautions against Diphtheria.

No. 20. Contagious and Infectious Diseases.

No. 20. Contagious and Infectious Diseases. (German.)

No. 20. Contagious and Infectious Diseases. (Slovak.)

No. 21. Precautions against Scarlet Fever.

No. 22. Precautions against Trichinosis.

No. 22. Precautions against Trichinosis. (German.)

No. 24. Recommendations in regard to the Care of Infants.

No. 25. (Revised) The " Act for the better protection of the health and morals of school children ; " with a description of a cheap and convenient Earth Closet.

No. 26. School Hygiene, addressed to Teachers.

No. 27. Camp Hygiene.

No. 28. Precautions against Consumption.

No. 29. The dangers arising from public funerals of those who have died from Contagious and Infectious Diseases. Addressed to the Clerical Profession.

No. 30. The disposal of the Sewage of Public Edifices. Addressed to the Trustees and Managers of Public Institutions.

No. 31. Precautions to be adopted by Funeral Directors to prevent the spread of Contagious and Infectious Diseases.

No. 32. Precautions against Sunstroke.

No. 33. School Hygiene, No. 2. Addressed to School Directors and Trustees.

No. 34. First Treatment of the Apparently Drowned or Suffocated.

No. 35. The Prevention of Blindness.

No. 36. Sanitary Protective Associations.

No. 37. Emergency Hospitals.

No. 38. The care of the Eye.

No. 39. Dairy Hygiene.

No. 40. The Law establishing Boards of Health in Boroughs.

No. 41. Personal Precautions recommended to be taken by Physicians in attending those suffering from certain Communicable Diseases.

No. 42. How to meet Cholera. Addressed to Boards of Health.

No. 43. Model Regulations for the Storage and Removal of Garbage.

No. 44. Model Rules of Boards of Health.

No. 45. Powers and Possibilities of Boards of Health.

No. 46. The Sanitary Code of Pennsylvania for the Restriction of Communicable Diseases.

Any of the above circulars may be obtained on application to Dr. Benjamin Lee, Secretary of the State Board of Health, 1532 Pine street, Philadelphia, enclosing a two-cent postage stamp. The postage for the entire series, enclosed in a substantial box envelope, is six cents.

BENJ^N LEE, M. D.,

Secretary.



